

# Washington State Hatchery System

## Endangered Species Act and Hatchery Reform

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# Organization of Hatchery Series

1. Historical and legal context – December 2010
2. Historical and contemporary production, and economic value – January 2011
3. Endangered Species Act, salmon recovery and hatchery reform – June 2011

# Federal Endangered Species Act

Hatcheries identified as factor contributing to the decline of wild populations.

ESA-authorization is needed to continue hatchery operations.

## Hatchery and Genetic Managements Plans—HGMP

- Currently, 20 programs are formally permitted under ESA
- ~150 HGMPs have been submitted state-wide for consultation
- Currently two federal hatchery reviews underway- The Puget Sound and Mitchell Act NEPA

# Effects Identified:

## Genetic

- Diversity
- Domestication
- Inbreeding Depression

## Ecological

- Predation
- Competition
- Disease

## Facility

- Water Quality
- Fish Passage
- Intake Screening

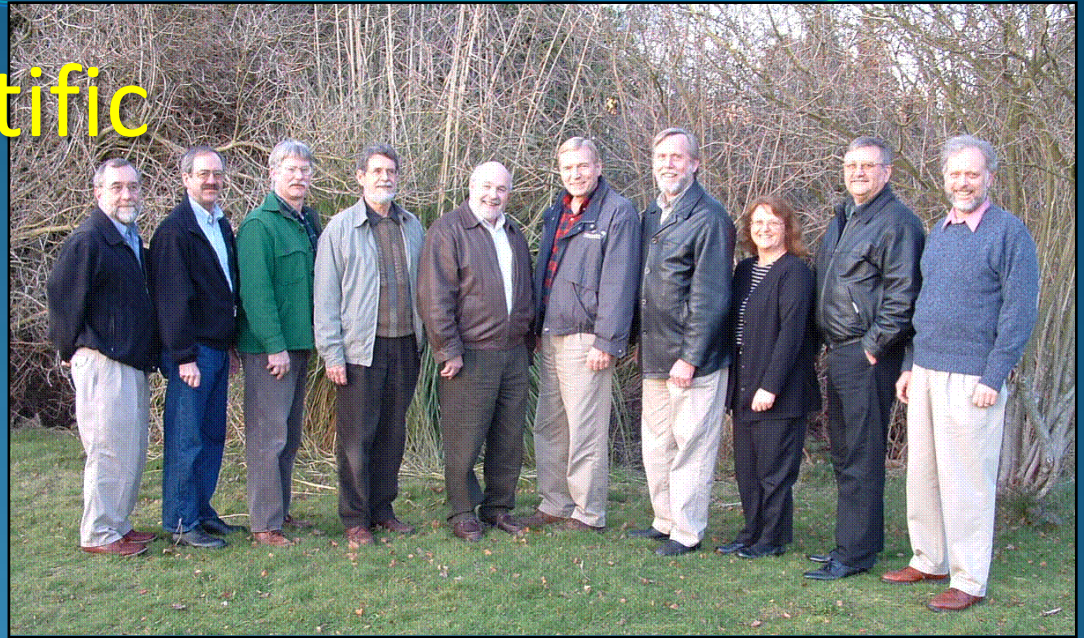


# Hatchery Scientific Review Group (HSRG)

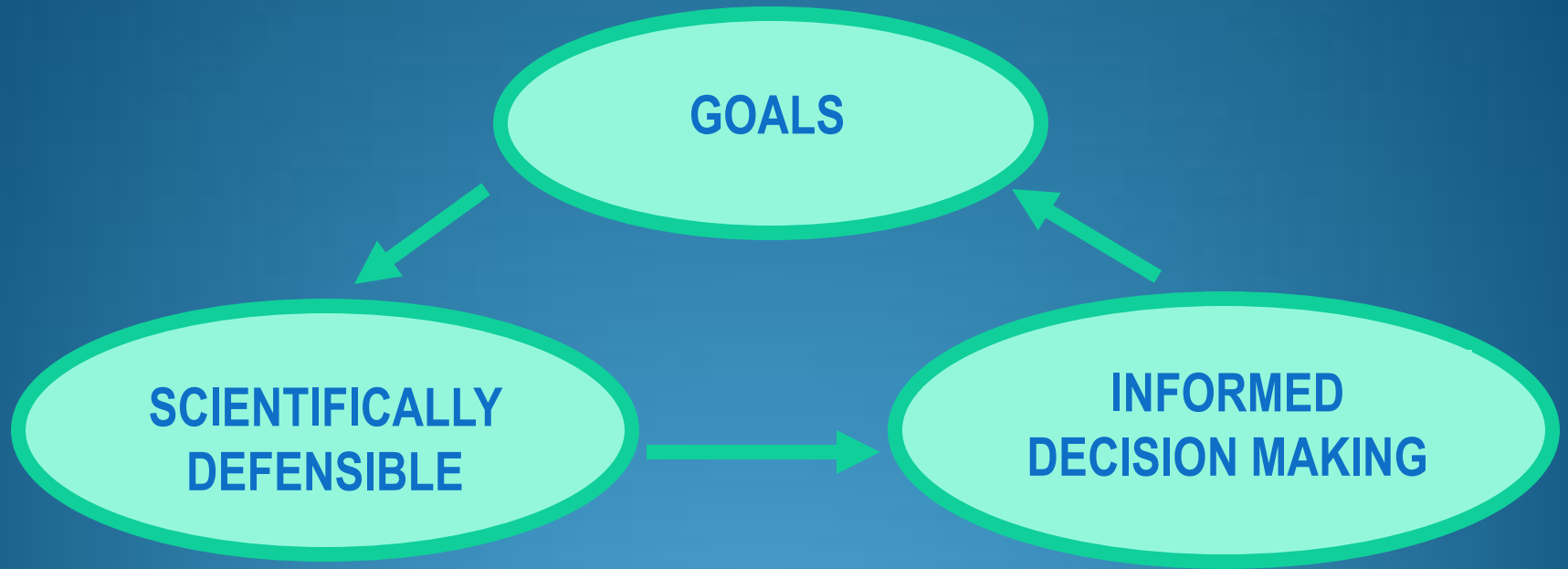
Independent  
scientific panel

Developed and recommend approaches to reduce the risks of hatchery programs

Review of Puget Sound and WA Coast from 2000-04 and Columbia R. from 2005-09



# Principles of Hatchery Reform



# Fish and Wildlife Commission

## Policy C-3619

“...to advance the conservation and recovery of wild salmon and steelhead by promoting and guiding the implementation of hatchery reform.”

- Use the principles, standards and recommendations of the HSRG
- Designate programs as Conservation or Harvest

# Fish and Wildlife Commission

## Policy- guidelines:

- Develop watershed-specific plans to implement hatchery reform
- Implement HSRG broodstock management standards for all WDFW programs by 2015
- Externally mark all fish produced for harvest
- Bring WDFW facilities into compliance with environmental standards

# Watershed-level Plans

WDFW's implementation strategy takes advantage, where possible, for processes or activities already underway and therefore may vary a little by region.

- Puget Sound
  - State-tribal coordinated Hatchery Action Implementation Plans (HAIP)
  - Coordinated with the PS Federal Hatchery NEPA EIS
  - Completion in early 2012
  - Initiation of citizen-based advisory group
- WA Coast
  - HAIP process initiated with treaty-tribes
  - Completion in mid 2013

# Watershed-level Plans *(continued)*

## Lower Columbia River

- Conservation and Sustainable Fisheries Plan (C&SFP) drafted.
  - Aligns WDFW production with Recovery Plan objectives
  - SEPA will be initiated with the completion of the Mitchell Act NEPA process

## Interior Columbia Basin

- Priority order is stocks in the Lower Snake River, Upper Columbia River, followed by Middle Columbia River regions based upon NOAA review needs
- Current production agreement under US v OR (08-2017)
  - Revised steelhead production in the Lower Snake River
  - Revised Wenatchee spring Chinook & summer steelhead
  - Revised Methow River steelhead production
  - More opportunities for revision...

# Watershed-level Plans:

## Timeline for completion

Puget Sound and Coastal harvest programs will be designed to have modifications in place to meet HSRG standards by 2015.

- Conservation programs , given their primary purpose, may still not meet standards.

Many Lower Columbia harvest programs have made significant alterations under the C&SFP and will continue to transition as new monitoring actions inform the needed changes.

Interior Columbia programs are currently outlined in the 2008-17 *US v OR* Management Agreement. They are also under ESA consultation for the Federal Columbia River Power System BiOp.

- WDFW works with Tribal Co-managers in the basin to adjust programs as needed to achieve HSRG principles and standards.

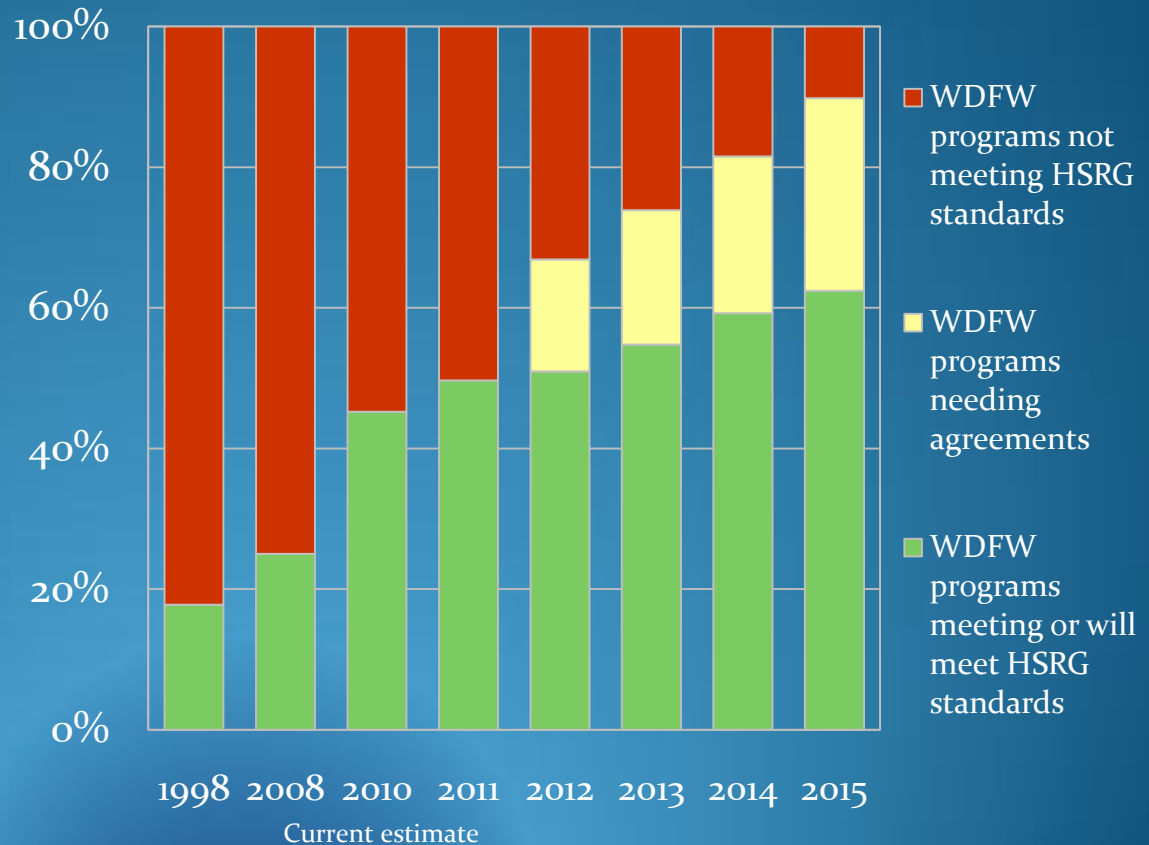
# Implementing HSRG Broodstock Management Standards

The green areas on the graph represent WDFW hatchery programs currently meeting standards, as represented by the 2010 bar and moving forward in time; program changes that have been agreed to, through the watershed-level plans, over the next several years.

The yellow areas represent programs requiring assessment, planning and agreement to implement changes but reflect our work plan for 2011-2013.

The red areas represent the programs that have not met the standards as of 2010, and which do not yet have agreements to be modified.

Current Timeframe & Schedule for HSRG Implementation



# Implementing HSRG Broodstock Management Standards *(continued)*

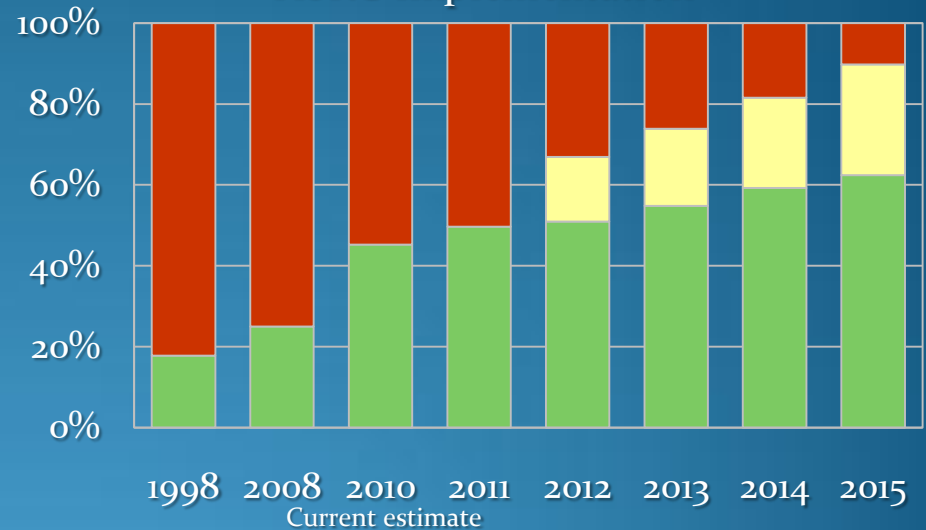
WDFW expects that the red and yellow areas will continue to shrink and move into the green color.

- Note: harvest programs that meet HSRG standards progress at a faster rate than Conservation programs.

Most Conservation programs have the primary objective of returning adults to the spawning grounds in order to bolster abundance and perpetuate populations, and are not expected to meet the HSRG standards in the near term.

Roughly 90% of WDFW's programs are expected to meet the HSRG standards by 2015.

Current Timeframe & Schedule for HSRG Implementation



# Mass-marking of Harvest Production

All WDFW coho salmon produced for harvest are mass-marked

- 23.3 million released in 2010

All steelhead WDFW produces for harvest are mass-marked

- 6.5 million released in 2010

Chinook WDFW produces for harvest

- 96 million released in 2010 (96%)
- 3.8 million not mass-marked (Priest Rapids Hatchery)



# Achieve Environmental Standards by 2025 (21<sup>st</sup> Century Salmon/Steelhead Benchmark\*)

If funded, the agency ten-year plan will bring the majority of agency-funded facilities within current environmental compliance.

## Hatchery Reform Capital Projects

- 2011-2013 State capital budget request:

Projects	Requested	Received
Hatchery-related fish passage barriers	\$450K	\$1.28 million
Full facility rebuilds/planning	\$15.8 million	\$1.0 million
Hatchery Intakes	\$ 3.8 million	\$3.4 million
Minor works: broodstock management	\$ 1.6 million	\$0

\* See 21<sup>st</sup> Century Salmon & Steelhead Initiative on the WDFW website at <http://wdfw.wa.gov/conservation/salmon/>

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## Hatchery Reform Capital Projects

- 2009-2010 Federal-funding request- Mitchell Act & Pacific Coast Salmon Recovery Fund (PCSRF)
  - Hatchery-related fish passage barriers- \$720K (100% funded)
  - Hatchery intakes (design and repair)- \$1 million (100% funded)
  - Broodstock management- \$4 million (100% funded)

\* See 21<sup>st</sup> Century Salmon & Steelhead Initiative on the WDFW website at <http://wdfw.wa.gov/conservation/salmon/>

# Summary

Hatchery Reform Policy represents a paradigm shift for hatchery production.

ESA authorization offers additional impetus for hatchery reform.

## Policy Progress

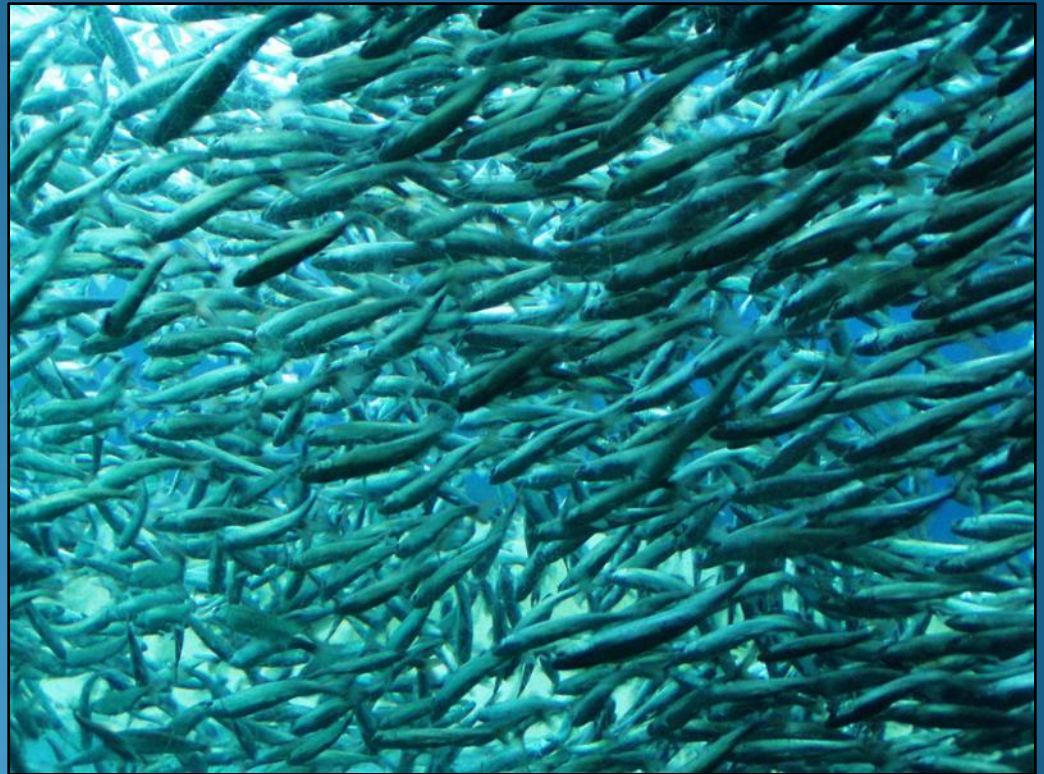
- Watershed Plans:
  - Lower Columbia River completed
  - Puget Sound- 2012 completion
  - WA Coast- 2013 completion
- Implementing HSRG Broodstock Standards:
  - Currently 45% statewide meet standards
  - Schedule is in place to meet the 2015 timeline for 90% of programs

# Summary *(continued...)*

## Mass-marking of harvest production

- 100% of coho and steelhead
- >95% of Chinook mass-marked

Hatchery Reform capital and operational projects are prioritized by WDFW for all budget requests.



# Questions?

